REGIONAL AIRLINE QUALIFICATIONS: A STUDY IN THE MARKETABILITY OF HIGHER EDUCATION GRADUATES

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The recent emergence and growth of the regional airlines in the United States has placed a strain on the supply of pilots that are needed for staffing scheduled flights. This present pilot shortage is presenting challenges for 2-year colleges and 4-year universities with aviation programs to produce more pilot graduates in less time to meet the staffing demands made by the regional airlines. With this shortage, the pressing issues of how to train and hire qualified pilots to fly technologically advanced regional airline jet aircraft have forced the industry to demand more aviation skills from a shrinking market of aviation pilot candidates. Colleges and universities with aviation programs have been forced to compete with outside private aviation schools on a larger scale in the training of collegiate students for airline employment opportunities. The primary purpose of this study was to expose any inadequacies in the higher-education aviation curricula and to propose changes needed to better qualify aviation students in the hiring process at regional air carriers.

This study concentrated on the principle that higher education is necessary for advancing a pilot’s aptitudes and abilities to perform the highly technical tasks of a professional pilot in a regional airline environment. The avenues of obtaining aviation experience along with flight certificates and ratings in an academic environment from 2-year colleges and 4-year universities with aviation programs is examined, along with qualifying these schools with the criteria regional airlines expects from new pilots hired.
A survey was used to poll the pilots from two regional airlines that were based in Texas. By analyzing the responses from the returned surveys, the quality of training that existed in higher education aviation programs was revealed. The study confirmed the value of advising a path of higher education for students embarking on an aviation career as a pilot for a regional airline. The study concluded that 2-year colleges and 4-year universities with aviation programs are meeting the present demands made by the regional airlines.
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Regional airlines in the passenger air carrier industry have seen a recent increase in the hiring trends for new pilots, and they have subsequently modified their standards for new-hire applicants (Fanjoy, et al., 2006). This change in standards directly reflects the marketability of the pilot hiring pool, which traditionally has come from the U. S. military forces and, more recently, from higher education institutions that train pilots in a collegiate environment. As standards have been lowered by regional air carrier airlines in reaction to the shortage of trained pilots, the collegiate bar has been lowered for pilot qualifications and educational standards that were exclusively incorporated into the curriculum of 2-year colleges and 4-year universities with aviation programs (Fanjoy et al., 2006).

Many of the regional airlines’ new-hire pilots in initial ground schools have been hired with no formal higher education degree, and others have obtained their flight training from private aviation facilities. This lowering of standards has affected the role of higher education’s perceived benefit to the public and society, which has utilized public higher educational facilities with tax-provided staff and facilities (Dennison, 2003). With this shift in regional air carrier hiring criteria comes the issue of the pilot product that is now in demand and how industry must better prepare future pilots to adapt to new industry standards (Fanjoy et al., 2006). This research explores the product of pilot training that is being produced by 2-year colleges and 4-year universities with aviation programs and approaches how higher education aviation institutions are meeting
today’s airline needs. It also addresses the present standards of the air carrier industry in regards to pilot experience and investigates who is being hired in the air carrier pilot marketplace.

Theoretical Framework

The public has traditionally viewed higher education institutions as places of learning and advancement for students. Similarly, the incorporation of aviation programs into the higher education arena has been traditionally viewed as a superior method for students to obtain a professional aviation background as well as a college degree. In the past, professional pilots had an edge in the aviation market if they held a college degree, because this added status to their marketability (Hunt, 1972). Obtaining their aviation training from universities that offered aviation programs provided an even more marketable background for pilots. A college degree was preferred, and a degree with an aviation emphasis was even better (Clark, 2006).

Higher education in the form of a bachelor’s degree has been a requirement for pilots in the military services, because only university graduates could advance to officer’s training school and soon after be admitted to pilot training school. The aviation industry holds 2-year colleges and 4-year universities with aviation programs in high esteem, and pilot candidates have understood that this was expected on their pilot’s resume. The framework for this research is the theory that higher education is necessary for advancing a student’s aptitudes and abilities to perform the highly technical tasks of a professional pilot in a regional airline environment (U.S. Department of Education, 1998). This pattern of research also explores how unprepared individuals
will be if they bypass the traditional role of higher education and instead take shortcuts in an attempt to prepare themselves as pilots in the airline industry.

Two avenues that appeal to students desiring to obtain their aviation experience in order to prepare themselves for employment at the regional airlines are available at 2-year colleges and 4-year universities. These colleges and universities have specialized aviation programs for students wishing to obtain their flight certificates and ratings in an academic environment. These aviation programs offer a combination of classroom subjects taught in an academic environment along with a lab component of flight lessons taught in actual aircraft. This aviation procedure leads to the completion and acquirement of Federal Aviation Administration-issued flight certificates and ratings for specific aircraft.

Two–year colleges offer associate degrees in aviation, with the majority of the training being in aviation flight courses. This 2-year degree typically has 18 hours of academic requirements and 52 number of aviation hours, for a total of 70 hours. In contrast, 4-year universities offer a bachelor of science degree with a specialized major in aviation. This 4-year degree has a greater number of academic core component hours and a larger number of specialized aviation component hours required for completion than the associate degree. The average total hours required in the bachelor of science degree with an emphasis in aviation is 125 hours.

Statement of the Problem

The training that aviation students receive in higher education aeronautical institutions must be reassessed in order to better qualify them for careers in today’s
changing regional airline industry. Present hiring qualifications for pilots in the regional airline industry have changed from past requirements, and a new assessment is needed for pilots who are training to enter the air carrier workforce. Modification is needed to better prepare students who are obtaining a college degree for an airline career.

Purpose of the Study

The primary purpose of this study was to expose any inadequacies in the higher-education aviation curricula and to propose changes needed to better qualify aviation students in the hiring process at regional air carriers. A secondary goal was to compare and contrast the role of 2-year colleges with aviation programs to the role of 4-year universities with aviation programs in the process of how students are educated for aviation flight careers.

Research Questions

The research questions designed to achieve the purpose of this study included the following:

1. Is higher education advisable for students embarking on an aviation career as a pilot for a regional airline?

2. Have 2-year colleges and 4-year universities with aviation programs kept up with the requirements for employability with the regional airlines?

3. Can higher education aviation programs properly measure and critique their programs in regard to the qualifications that students need to embark on a career as a regional airline pilot?
Significance of the Study

Higher education institutions have been held to the high standards of public education, particularly in the years following World War II when returning soldiers benefited from the G.I. Bill and went to college. Major airlines used the college degree as one of their basic steps in individuals being considered as new hires for pilot employment, and they encouraged employees to pursue academic programs on a part-time basis (Hunt, 1972). Higher education has also evolved in the educating and preparing of minority students for careers in the field of aviation; this has been done in consortiums and collaborative efforts between colleges and universities to encourage minorities to become involved in aviation as a career (Roland, 2004). Many aviation universities have established bridge agreements with the training departments of regional airlines in order to qualify their students with advanced training procedures involving regional jet simulators at the university (Tippens, 2005). These trends all illustrate the unique partnership and alliances that higher education institutions have had with aviation students in the quest to better their training for airline careers after graduation.

However, higher education has recently come under attack from the competition of funding for other state priorities and the accreditation of courses. Aviation programs have additionally come under the scrutiny of minority student completion factors, aviation accreditation from national academic councils, and the justification of expenditures to upgrade technical equipment to keep up with industry standards. These challenging issues create the need for the evaluation and improvement of a
public higher education program that has served the industry well while at the same time recognizing that the program must be reinvented and improved to keep up with aviation industry standards (Johnson, 1999).

Further scrutiny of higher education aviation programs is needed because of industry demands for greater competency from college flight program graduates entering the workforce of regional air carriers (Mangan, 2000). These demands are due to the emergence of pure jet aircraft and their technical complexity, as well as the changing post-9/11 environment of aviation. The increases in costs create training shortfalls, and industry has started to expect aviation universities to take measures to correct this (Fanjoy et al., 2005). Already, in Asia, outside aviation training corporations are offering reduced-time types of advanced training courses through the use of computer simulation to teach piloting skills for new air carrier pilots. This type of training is called a multicrew pilot license (MPL) training program, and it is indicative of one type of innovation being adapted by the air carrier industry (Matthews, 2006). If college program administrators fail to correct deficiencies within their programs, outside aviation training corporation sources will capitalize on the training shortcomings of graduate students that regional airlines expect of new-hire pilots (Mangan, 2000). This will solicit training for future students elsewhere in pilot training corporations, thereby greatly reducing the need and role of aviation universities (Matthews, 2006).

Ignoring how college programs must evolve along with the changes in the aviation industry will result in the cancellation of public higher education aviation programs, which will have numerous negative effects on students aspiring to benefit from the cost-effective public programs that over 100 colleges and universities presently offer
(Prather, 2006). Other potential negative results from the reduction of collegiate aviation programs will be the emergence of substantially more expensive noncollegiate commercial aviation schools, a further shortage of qualified pilots for air carrier positions in the United States, and the loss of airline flight operations internship programs that presently provide students with learning experiences that cannot be duplicated in classrooms (Ruiz, 2004a).

**Definition of Terms**

*Air carriers:* The commercial system of air transportation make-up of domestic and international certified and charter services.

*Associates degree in aviation:* Specialized aviation training obtained in colleges consisting of classroom studies and aircraft flight courses that leads to the award of an associates degree. The average time planned to complete this degree is scheduled with four to five semesters of classroom subjects and flight courses.

*Bachelors degree in aviation:* Specialized aviation training taught in universities consisting of core academic components, classroom studies, and aircraft flight courses that lead to the award of a bachelors degree. The time required to complete this degree is scheduled with eight to ten semesters of classroom subjects and flight courses.

*Bridge agreement:* A formal signed document between an aviation program and a regional airline that reduces the minimum flight time required for aviation students to be considered for hire by the airline. Typical conditions of the agreement stipulate a specific grade point average, minimum number of flight hours, and other desirable
academic qualifications for aviation students applying for employment with the regional airline.

*Crew resource management:* The effective utilization of all available resources – information, equipment, and people – to achieve safe and efficient flight operation. This is best demonstrated in a 2-pilot aircraft configuration with positive interaction existing between the crew in all modes of flight.

*Entry-level pilot:* A newly hired pilot who has been hired at an airline.

*Federal Aviation Administration (FAA):* An independent agency of the U.S. government that is charged with controlling the use of U.S. airspace to obtain the maximum efficiency and safety.

*First officer (co-pilot):* The flight crew position of the pilot who is second in command of the aircraft. This flight deck position is on the right side of the cockpit, with the captain’s position on the left.

*Flight crewmember:* Certified pilot required for the safe operation of an aircraft.

*Flight simulator:* A device used for training that duplicates the cockpit of an airplane. The controls and instruments are connected to a computer, which gives pilots the feel and indications that would exist under actual flight conditions in a real aircraft.

*Hiring criteria:* Specific criteria that must be met or obtained by pilots before they can be hired.

*Legacy airlines:* The original (and surviving) major airlines that have operated continuously since the Deregulation Act of 1978.

*Major air carrier/airline:* A class of certified air carriers whose annual gross revenues are over $1 billion.
Private Pilot Level: The first certificate issued by the FAA to a pilot with the basic privileges of carrying passengers, along with the pilot in flight.

Regional air carrier/airline: A class of certified air carriers. Airlines are classified as large regional carriers if their annual gross revenues are between $10 million and $75 million and as medium regional air carriers if their annual gross revenues are under $10 million.

Delimitations

The delimitations of this study were identified as follows:

1. The initial subjects surveyed were aviation graduates who attended aviation classes at Tarleton State University – Central Texas in Killeen, Texas.

2. Graduates who did not continue in an aviation career with the regional airlines were inaccessible.

3. The instrument used to survey the aviation graduates qualified pilots from both 2-year colleges with aviation programs and 4-year universities with aviation programs, as well as pilots with no college completion.

4. The perceived benefits of a college education were measured from students gainfully employed in the air carrier industry.

5. For statistical purposes in education results, the survey asked for age, sex, and racial profiles.

Limitations

The delimitations of this study were identified as follows:
1. Some graduates had biased views because of slow promotion and perceived adverse work conditions in the regional airline community.

2. The survey was limited to 2 regional airlines; however, the 2 surveyed were substantial Fortune-500 listed companies that are among the largest in the regional air carrier industry.

Summary

A better understanding of the merits of higher education aviation programs is essential to continuing these courses for the preparation of students interested in pursuing air carrier aviation as a career. A stagnant or nonproductive curriculum is unacceptable in the higher education arena, and the identification and awareness of these programs must be instigated in aviation training. The present transportation economy and the development of high tech aeronautical equipment have changed the criteria that regional airlines use to hire entry-level pilots (Fanjoy et al., 2006). This in turn has led to the need for higher education to modify its aviation curriculum and to better qualify students for future careers in aviation.
CHAPTER 2
REVIEW OF THE LITERATURE

Introduction

For the review of the literature, most of the material was obtained from recent peer-reviewed articles. However, older sources were also obtained that were well established, reputable, and reliable in the applications and practices of today’s airline industry. These articles give a good indication of what is taught in collegiate courses and why they have been included in college curricula since the mid-1990s.

The literature also supports the standards required by the regional air carriers in the workplace and describes the environment that aviation graduates will be recruited into (Fanjoy et al., 2006). More importantly, the literature has examined recent trends in higher education aviation curricula that administrators have used to modify aviation courses in order to meet changes in the airline industry since 9/11. Substantial operational changes that have recently been incorporated into the regional airline industry include the expansion of the regional jets, enhanced preemployment screening of pilot applicants, and a greater emphasis on cockpit resource management skills (Fanjoy et al., 2006). The review of the literature supports these changes, and it reaffirms most of the past practices still taught in higher education classrooms today.

Purpose of the Study

The primary purpose of this study was to expose any inadequacies in higher-education aviation curricula and to propose changes needed to better qualify aviation pilot students in the hiring process at regional air carriers. A secondary goal was to
compare and contrast the role of 2-year colleges with aviation programs to the role of 4-year universities with aviation programs in the process of how students are educated for aviation flight careers.

Research Questions

The research questions designed to achieve the purpose of this study included the following:

1. Is higher education advisable for students embarking on an aviation career as a pilot for a regional airline?

2. Have 2-year colleges and 4-year universities with aviation programs kept up with the requirements for employability with the regional airlines?

3. Can higher education aviation programs properly measure and critique their programs in regard to the qualifications that students need to embark on a career as a regional airline pilot?

The literature is reviewed in three sections, including (a) established higher education aviation curriculum; (b) future trends in higher education aviation curriculum; and (c) regional airline hiring trends of pilots and future considerations.

Established Higher Education Aviation Curricula

Collegiate aviation has been a major source of training in the United States, and this has been recognized by the U. S. Department of Education (1998). For years the military was a source of qualified pilots, but the downsizing of the military has led to a dependence on the civilian field. With the increased dependence on civilian training,
collegiate aviation has performed a large part of the training for pilots utilized in the air carrier industry. For this reason, aviation industry leaders have recommended that airlines and universities form partnerships to jointly address the training and technology needs of the air carrier industry (Ruiz, 2004a). Earlier studies suggested that pilots should be held to higher standards through selective battery tests, and even as early as the private pilot level (Damos, 1996). Recently, academic program quality has been debated within higher education institutions as criteria for producing better students and better pilots. Schools have debated how to evaluate the degree of academic quality in the highest quality 4-year aviation programs compared to that in intermediate-and low-quality 4-year aviation programs (Lindseth, 1999).

The U.S. government has also established standards of training that collegiate aviation has adapted. Among these government standards are gender concerns, which is found in collegiate aviation literature. The lack of women in university aviation programs is a concern in pilot training. Embry Riddle Aeronautical University has done studies on enhancing the retention of women in college aviation programs with the help of funding from the U.S. Department of Education (Moore, 1999). Parallel studies have emphasized the importance of retaining women in aviation programs once they have enrolled and of interpreting the learning style preferences of female students to prevent them from prematurely leaving collegiate aviation (Turney et al., 2002).

A recent development in collegiate training courses has been the integration of Crew Resource Management training for pilots. The responsibility of working well in a crew situation has best been put to practice in aircraft simulators at aviation universities (Hedge et al., 2000). Airlines have long recognized the value of aircraft simulators, and
this has not gone unnoticed by the aviation universities. The flight simulator is a valuable tool that helps prepare students for first officer training in the role of co-pilot during simulated flight sessions, as well as practice in crew resource management skills (Banard, 2000). University programs reacted to what was predicted to be a pilot shortage in the mid-1990s when the U.S. economy saw a large expansion in the number of the passenger air carrier airlines. This predicted pilot shortage saw airlines forming consortiums with university aviation programs to accelerate the training program for new pilots while simultaneously better preparing pilots for employment (Mangan, 2000). Other schools saw the importance of combining aviation courses with a liberal arts curriculum to provide situational awareness to create a better process of crew resource management in the aircraft cockpit (“Several Paths,” 2001).

Trends in Higher Education Aviation Curricula

The U.S. economy began to show signs of slowing in 1999, and the air carrier airlines suffered (Wells & Wensveen, 2004). During this downturn, the events of 9/11 led to catastrophic losses in the air carrier industry, which halted pilot hiring in all of the U.S. aviation industry. Colligate aviation programs reacted in numerous ways to keep pilot training aligned with the perceived present and future needs of the air carrier industry. Concerns of quality in 4-year aviation programs and applications for pilots being prepared for safe operation in the U.S. transportation system were being addressed prior to 9/11 (Lindseth, 1998). Some studies suggested that aviation students could learn better if specific learning styles were identified, mapped, and used as a tool to design more effective aviation courses (Kanske & Brewster, 2001).
However, other research showed that some highly touted aviation schools were no better in providing a specialized learning environment for pilot curriculum than outside, self-paced tutorials (Flouris, 2001). This awareness, along with concerns about better aviation training in collegiate programs in the U.S., led to numerous attempts at improving the role of training, especially in a down-turned air transportation economy.

A greater emphasis on writing skills taught on the university level has been suggested to improve critical thinking, promote better analysis and synthesis of information, encourage precision in written work, and reinforce learning for aviators in the complex cockpit environment (Ruiz, 2004b). The ever-increasing cost of a higher education in aviation has been a factor in students entering aviation in collegiate programs. The Federal Aviation Administration has eased cost issues through its funding of more scholarships in the reauthorization bill for federal aviation programs (Wolfe, 2004). Despite this awareness, many aviation schools saw a decline in student enrollments. This led to case studies and independent audits to evaluate university programs in parallel with other universities and industry standards, and it also led to searches on how to revise aerospace programs (Schwab, 2005).

These same 4-year universities and 2-year colleges with aviation programs embarked on a renewed interest in national accreditation to raise their standard of accountability in public opinion, led in the United States by the Council on Aviation Accreditation (CAA). The CAA was originally established in 1988 in response to the need for formal, specialized accreditation of aviation academic programs. The first aviation programs were accredited by the CAA in 1922, and today the CAA lists 60 accredited programs at 21 institutions nationwide (Prather, 2006). New training
methods have been explored, including the application of distance education in aviation training. Training needs are forecast to grow for aviation at more than 40%, and the need for online learning is seen as a technique to better meet this situation (Mahesh et al., 2005).

Another new avenue of training is the area of teaching corporate social responsibility in aerospace education. This is an emphasis on instilling in students an appreciation for the history, importance, and beliefs of an organization, as well as social responsibility (Phillips, 2006). This is another example of how future job-related skills will be needed to do more than just teach students how to fly aircraft. In the field of research, recent surveys have shown how students decide on which collegiate programs to attend. Based on survey returns, the nine most frequently selected program and institutional characteristics that attract students to collegiate aviation were program educational quality, university, condition of equipment, institutional educational quality, location of institution, small class size, safety concerns, student to faculty ratio, and distance from home (Clark, 2006). Other promising suggestions for exclusive offerings in collegiate aviation programs are to develop a national screening program that better predicts an individual’s potential for success as an airline pilot and a curriculum of proficiency-based training to supplement experience-based training (Karp, 1996).

Regional Airline Pilot Hiring Trends and Future Considerations

Positions in regional airlines have traditionally been the first air carrier jobs for which collegiate aviation graduates qualify. Therefore, a study of the literature on how
the regional airlines set criteria for new-hire pilot applicants is in order. Typically, regional airlines have a specific hiring criterion that is used to represent the level of flight training of entry-level pilots. Some hiring criteria are relaxed during periods of proficient entry-level pilot shortage (Matthews, 2006). The significance of lowered standards for new hires is that these standards erode the quality product that has typically been provided by collegiate aviation schools. Noncollegiate pilots who have less quality aviation training, sub-par piloting experience, and less formal education will invariably be hired by regional airlines in times of need. This situation weakens the market that aviation universities have met for years and puts the position of higher education for aviation programs in jeopardy.

Regional airlines respond to positive economic conditions in the U.S. by expanding their routes according to higher public demand for air carrier service. As a result, they hire more pilots to fly additional routes. These trends appear in cycles, as they did in the mid-1990s. For example, the airlines in 1996 earned record profits of $2.8 billion, as well as record numbers of passengers and amounts of cargo carried (Wells & Wensveen, 2004). There is presently an increase in demand for regional air carrier service, and more pilots are needed to fly aircraft on these routes.

Regional airlines have lowered their minimum flight time requirements for new-hire pilots because they are desperately trying to recruit enough pilots to meet their staffing requirements (Fanjoy et al., 2006). This is occurring at a time when industry is expanding the role of smaller regional jet aircraft used in the U.S. air transportation system. These smaller, more efficient aircraft are replacing the older, larger jet aircraft that have been used by the legacy air carriers. In spite of these escalating hiring trends,
safety has always been a criterion for the airlines, and pilot qualification for pre-hire screening has been exercised for years. The cost of pilot screening and later disqualification after flight training is expensive, and the U.S. Air Force has conducted continuous, wide-ranging studies to identify and evaluate new selection measures (Hunter & Burke, 1994). For passenger safety, pilot mental health issues need to be addressed, and this has led to research to determine the assessment of airline pilot mental health for new hires (Butcher, 2002).

Another issue with huge ramifications is the mandated retirement age for air carrier pilots in the U.S., which is presently set at 60 years of age. The age issue illustrates the split in the airline staffing of pilots. Legacy carriers, struggling with high labor and pension costs, have an interest in replacing higher salaried pilots with younger pilots who earn less (Wolfe, 2005a). A high number of mandated pilot retirements results in a greater need for new pilots at the regional airline level. However, this retirement is highly contested by aviation union groups, which believe that senior pilots are being forced to retire at the peak of their performance and that the safety of passengers is compromised when they are replaced with younger, less experienced pilots.

All of this comes at a time when smaller regional jet aircraft are replacing the larger jet aircraft of the older legacy airlines. The legacy airlines have high fuel costs that are burning up their capital; competition is cutthroat, and 2 historical mainstays of the industry (Delta Airlines and United Airlines) are in bankruptcy (Wolfe, 2005b). This leaves the pilot hiring market in a constant state of economic turmoil, with regional airline pilot demand presently exceeding what is available from the private sector. Collegiate aviation programs have historically had to adjust their pilot training output to
the fluctuating demands of the air carrier market. However, the emphasis of collegiate aviation remains that of offering, training, and graduating a product of excellence in aerospace curricula.

Summary

These are the issues that merit more study on the topic of pilot training in higher education aviation institutions. Changes in pilot hiring procedures in the regional airline industry cannot be ignored, and a review of how higher education is better prepared to meet these challenges is warranted. As the structure of air carrier service evolves according to economic market demand, the training and selection of pilots hired into these airlines will also change. It is crucial that collegiate aviation programs monitor trends in the air carrier industry and make appropriate changes in their curricula to properly train and qualify aviation students to enter these job markets.
CHAPTER 3
METHODOLOGY

Introduction

To explore the theory that regional airline air carrier pilots with a higher education background have marketability and preferential advantages over pilots without an academic background, a method needed to be designed to ask specific questions of the pilots themselves. This was done by polling specific pilot groups with a user-friendly survey that was completed relatively quickly and anonymously. The style and format of this instrument determined how levels of higher education have aided pilots in modern regional airline pilot positions in the highly technical and demanding air transportation arena.

Purpose of the Study

The primary purpose of this study was to expose any inadequacies in the higher education aviation curriculum and to propose changes to better qualify aviation pilot students in the hiring process at regional air carriers. A secondary goal was to compare and contrast the role of 2-year colleges with aviation programs to the role of 4-year universities with aviation programs in the process of how students are educated for aviation flight careers.

Research Questions

The research questions designed to achieve the purpose of this study included the following:
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2. Have 2-year colleges and 4-year universities with aviation programs kept up with the requirements for employability with the regional airlines?

3. Can higher education aviation programs properly measure and critique their programs in regard to the qualifications that students need to embark on a career as a regional airline pilot?

Population

The population surveyed for this study was employees from the regional airlines, because the regional airlines are the first significant employer for a college aviation pilot graduate. The methodology in this survey was to recruit regional airline pilots in flight position status and to poll their opinions on marketability in the air carrier industry. These pilots represent graduates from 2-year colleges with aviation programs and 4-year universities with aviation programs, as well as pilots who completed no formal higher education aviation courses. The specific samples came from 2 large Texas-based regional airlines that the writer has connections with, American Eagle of AMR, Inc., and Express Jet Airlines, Inc.

Sample

The initial pilots surveyed at each of these 2 companies were students who graduated from the 4-year aviation program at Tarleton State University - Central Texas and were employed in flight positions. Their employment in the regional air carrier
industry was ideal for this study’s questions concerning the background of higher education training and how prior training has qualified them for their present occupations as pilot crew members in regional airline air carriers. Along with the above-mentioned pilots, other pilot crew members at these various domiciles were contacted by the researcher’s graduate aviation students. These crew members were first officers and captains who were employed in the same aircraft types and flight assignments to which Tarleton graduates are assigned. All of these pilots were acquaintances and perform the same tasks and duties in assigned flight positions at the DFW and Houston domiciles. This is a reliable method, because all pilot employees had personal mail boxes in which the survey instruments were placed.

The domiciles at both the DFW and Houston locations were large, with 940 pilots based at American Eagle and over 1,000 pilots at Express Jet. The sample size at each location was as few as 30, with a maximum of 100. This brought a maximum percentage of 10% polled at each location, with 200 surveys utilized. The administered sample was a combination of random and convenience. This is because the Tarleton graduate pilots distributed the survey in pilots’ workplace mailboxes, as well as physically handed them to the crewmembers they were working with on a particular flight. Because of this personal touch, a high number and percentage of returns resulted.

Research Design

To properly document the past flight training of pilots who are presently employed at a particular regional airline, a survey instrument was used to collect information from
pilots who had been hired by and worked for the respective regional airlines at the time the survey was administered. The instrument measured the background and qualifications of the individual pilot who had successfully been interviewed, employed, trained, and placed in a flight position. Questions regarding educational background were specifically included in the survey, along with inquiries as to age, gender, and race. Past studies performed with regional airline personnel indicate that these regional airline employers are not overly concerned with pilot applicants having a higher education degree or background (Fanjoy et al., 2006). Therefore, the main objective of the survey was to poll individuals who (a) had qualified to be airline pilots; (b) had gone through a regional airline interview process; (c) had been offered and accepted employment with the specific regional airline, followed by successfully completing all phases of company training; and (d) were actively employed as pilots in a flight position.

Instrument

A pilot survey was developed and field tested on a group of pilots for input and possible modifications. The survey instrument was developed in a Likert scale format that asked the respondents to reply to specific questions pertinent to their aviation background. Additional data questions on the survey were developed in the areas of aviation education, qualifications obtained prior to being hired at their present airline, abilities perceived to be critical in the airline industry, and present job satisfaction. These questions were designed to determine relationships between college status and non-college status and how these backgrounds affected employability. The proposed instrument was a printed questionnaire with a return postage-paid envelope for the
respondents to complete. This format was carefully chosen because access to individual pilot inter-office mail boxes was obtainable through graduate pilot acquaintances. Follow-up information on the results of the survey was made available to individuals taking the survey, provided the writer had access to individual email addresses to which to send the data. The physical paper mail survey was preferred because it offered greater anonymity, less intimidation, less expense to the subject completing the survey, and a higher completion return than the online electronic survey.

As an incentive, a gratuity in the amount of a one-dollar bill was placed in each survey document. This incentive was expected to increase the rate of completion and return for the survey instruments. This particular incentive was chosen over a gift card because the expense was less and the monetary amount was deemed insignificant to be appreciated by the pilot recipients.

Collection and Treatment of Data

The completed survey was returned and collected by return mail to the researcher. The technique used in collecting the data for this study was perceived to have an improved rate of return, which improved the tabulation of the data. Although more recent methods are being used in research data collection, such as online surveys, the researcher believed that this older method of mailed survey forms had a greater rate of return with the specific subjects polled.

The data analysis procedures utilized frequency and percentage distributions for data analysis on the nominal and ordinal scale. Mean scores and standard deviations on interval data were gathered from the Likert scale questions. The survey results were
calculated to show pilots’ opinions on the quality of higher education that they had received prior to being hired by the regional airlines and to what extent higher education was a factor in obtaining employment. The data also showed the differences perceived by pilots in education received at a 2-year college with an aviation program compared to education received at a 4-year university with an aviation program.

Summary

The returned surveys with this proposed instrument addressed the disparities and similarities in previous training backgrounds that have shaped the pilot skills that presently exist in regional airline air carrier operations. By analyzing these data, this researcher revealed the quality of training that existed in higher education aviation programs. These returned surveys also determined that the collected data qualified the similarities and differences that existed in both 2-year colleges and 4-year universities with aviation programs.
CHAPTER 4
FINDINGS
Introduction

This chapter presents an analysis of the data collected from the returned surveys and establishes connections between higher education aviation curricula and pilots employed at the 2 regional airlines that completed the surveys. It also identifies pilot groups that had no connection with higher education aviation curricula and had acquired their aviation training from noncollegiate sources.

The purpose of this study was to expose any inadequacies in higher education aviation curricula and to propose changes needed to better qualify aviation pilot students in the hiring process at regional air carriers. A secondary goal was to compare and contrast the role of 2-year colleges with aviation programs to the role of 4-year universities with aviation programs in the process of how students are educated for aviation flight careers.

Research questions designed to achieve the purpose of this study included the following:

1. Is higher education advisable for students embarking on an aviation career as a pilot for a regional airline?

2. Have 2-year colleges and 4-year universities with aviation programs kept up with the requirements for employability with the regional airlines?

3. Can higher education aviation programs properly measure and critique their programs in regard to the qualifications that students need to embark on a career as a regional airline pilot?
Description of the Findings from the Survey Instrument

The population tested in this study was pilots employed at 2 large regional airlines based in Texas. The survey instrument used for this study consisted of an outside envelope with a photograph of the recipient's airline aircraft printed in color for maximum graphic appeal and attraction. Inside of each packet was a cover letter with a one-dollar bill taped at the bottom, a 2-sided survey instrument printed on light yellow paper, a copy of the approved informed consent notice, and a self-addressed, stamped and unfolded # 9 envelope to return the completed survey in. The envelope was addressed to the researcher's home address.

The information packets were distributed by three graduate aviation students from the Tarleton State University – Central Texas Aviation Program who had access to this population inside their workplace. These packets were either personally handed to the recipients or placed in their company mailboxes. Ninety-one of the 200 distributed surveys were returned by mail, for a return of 45.5%. In addition to the comments made by the recipients, 7 individuals returned the one-dollar bill that was included as a gratuity in the survey packet. All of the returned surveys were entered into a computer software spreadsheet. Forty-seven different columns were used to enter answers for each question. Written comments were all transcribed and entered into one separate column.
Quantitative Research Related Data Questions

The first 22 questions of the survey asked questions from an opinion based on past education issues, and the choices for responses were Likert scale selections in a range from 1 to 4 (1 = strongly disagree to 4 = strongly agree). The last selection, 5, was not used in tabulating the results. This selection 5 was left on the survey instrument to discourage the person taking the survey from picking an average selection in the middle of the scale. Four themes were designed into the 22 questions: school and academics, satisfaction with academic programs, employment, and workplace opportunities with challenges. From the first 22 questions on the survey, Questions 1, 2, 4, 7, 8, 9, 12, 13, 14 and 16 pertained to school and academics. Questions 3, 11, 15, and 17 pertained to satisfaction. Questions 4, 17, 18 and 22 pertained to opportunities. Questions 19, 20 and 21 pertained to opportunities.

To determine whether the questionnaire had kept with the issue of pilot marketability in the regional airline industry, the returned answers were tested statistically using the SPSS version 15 exploratory factor analysis to see whether a trend existed among the questions (SPSS Inc., Chicago, IL, http://www.spss.com/corpinfo/index.htm). Of these first 22 questions, 4 themes appeared: school and academics, satisfaction with academic programs, employment, and workplace opportunities with challenges.

The data were entered into SPSS and a principal component analysis was conducted. Six components resulted from the extraction method of the principal component analysis. Component 1 had the highest loading accounting, for 32.47% of the variance, which was identified as school and academics. Once the factors were
determined, the items belonging to each component were summed and correlational
analyses were performed on the components to investigate relationships between the
subscales. Table 1 lists the loading of the 6 components from the analysis of the data
from the 22 questions.

Table 1

**Factor Analysis for Survey Data Total Variance Explained**

<table>
<thead>
<tr>
<th>Component (not specific questions)</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>7.145</td>
<td>32.476</td>
</tr>
<tr>
<td>2</td>
<td>4.038</td>
<td>18.356</td>
</tr>
<tr>
<td>3</td>
<td>2.890</td>
<td>13.135</td>
</tr>
<tr>
<td>4</td>
<td>2.594</td>
<td>11.792</td>
</tr>
<tr>
<td>5</td>
<td>2.024</td>
<td>9.201</td>
</tr>
<tr>
<td>6</td>
<td>1.391</td>
<td>6.323</td>
</tr>
<tr>
<td>7</td>
<td>.866</td>
<td>3.938</td>
</tr>
<tr>
<td>8</td>
<td>.633</td>
<td>2.878</td>
</tr>
<tr>
<td>9</td>
<td>.299</td>
<td>1.358</td>
</tr>
<tr>
<td>10</td>
<td>.119</td>
<td>.541</td>
</tr>
<tr>
<td>11</td>
<td>3.10E-016</td>
<td>1.41E-015</td>
</tr>
<tr>
<td>12</td>
<td>2.33E-016</td>
<td>1.06E-015</td>
</tr>
<tr>
<td>13</td>
<td>1.93E-016</td>
<td>8.77E-016</td>
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<tr>
<td>14</td>
<td>8.78E-017</td>
<td>3.99E-016</td>
</tr>
<tr>
<td>15</td>
<td>3.87E-017</td>
<td>1.76E-016</td>
</tr>
<tr>
<td>16</td>
<td>1.85E-018</td>
<td>8.42E-018</td>
</tr>
<tr>
<td>17</td>
<td>-1.50E-017</td>
<td>-6.80E-017</td>
</tr>
<tr>
<td>18</td>
<td>-9.29E-017</td>
<td>-4.22E-016</td>
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<tr>
<td>19</td>
<td>-1.40E-016</td>
<td>-6.38E-016</td>
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<td>-1.96E-016</td>
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</tr>
<tr>
<td>21</td>
<td>-2.33E-016</td>
<td>-1.06E-015</td>
</tr>
<tr>
<td>22</td>
<td>-2.93E-016</td>
<td>-1.33E-015</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.

Table 2 lists the extractions of the 6 components, with each of the 22 questions
listed in order of the variance. VAR000111 is survey question 11, and VAR00012 is
survey question 12. Component Column 1 with the entries of .911, .830, .747, .737,
.718, -.702, .693, -.682, -.627, .588, and .522 sequentially illustrate the highest
component loading of 11 specific survey questions, with .911 being the largest variable question from the Component 1 entries.

Table 2

Component Matrix for 6 Extracted Components

<table>
<thead>
<tr>
<th>Questions 1-22</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>VAR00011</td>
<td>.911</td>
</tr>
<tr>
<td>VAR00012</td>
<td>.830</td>
</tr>
<tr>
<td>VAR00005</td>
<td>.747</td>
</tr>
<tr>
<td>VAR00010</td>
<td>.737</td>
</tr>
<tr>
<td>VAR00009</td>
<td>.718</td>
</tr>
<tr>
<td>VAR00018</td>
<td>-.702</td>
</tr>
<tr>
<td>VAR00015</td>
<td>.693</td>
</tr>
<tr>
<td>VAR00016</td>
<td>-.682</td>
</tr>
<tr>
<td>VAR00013</td>
<td>-.627</td>
</tr>
<tr>
<td>VAR00002</td>
<td>.588</td>
</tr>
<tr>
<td>VAR00001</td>
<td>.552</td>
</tr>
<tr>
<td>VAR00017</td>
<td>.232</td>
</tr>
<tr>
<td>VAR00019</td>
<td>.180</td>
</tr>
<tr>
<td>VAR00008</td>
<td>.460</td>
</tr>
<tr>
<td>VAR00007</td>
<td>.585</td>
</tr>
<tr>
<td>VAR00020</td>
<td>.109</td>
</tr>
<tr>
<td>VAR00021</td>
<td>.094</td>
</tr>
<tr>
<td>VAR00003</td>
<td>-.047</td>
</tr>
<tr>
<td>VAR00022</td>
<td>.487</td>
</tr>
<tr>
<td>VAR00014</td>
<td>-.444</td>
</tr>
<tr>
<td>VAR00004</td>
<td>.462</td>
</tr>
<tr>
<td>VAR00006</td>
<td>.464</td>
</tr>
</tbody>
</table>

Note. Extraction method: principal component analysis.

The resulting analyses showed significant correlations between academics and employment \((r = .622, p = .000, n = 89)\), academics and opportunity \((r = .217, p = .039, n = 91)\), and challenge and opportunity \((r = .302, p = .004, n = 90)\). From these 4 themes of school and academics, satisfaction with academic programs, employment, and workplace opportunities with challenges, strong correlations existed between academics and employment, academics and opportunity, and challenges and opportunity. Academics had the strongest correlations from all of the themes.
Next, a series of independent samples $t$ tests were run with the same SPSS program to see whether there were any differences between the subscale items of captains and first officers for the 4 themes of school and academics, satisfaction with academic programs, employment, and workplace opportunities with challenges. The results from conducting the series of $t$ tests on these variables of interest showed that there were no significant differences between the captains and first officers on three of these themes. However, the $t$ test did show a statistically significant difference for the theme of opportunity in the comparison between captains and first officers ($t(89) = 3.134, p = .002$). This gave a distinct advantage to first officers scoring higher in the opportunity theme than the results scored for the captains.

<table>
<thead>
<tr>
<th>Variable</th>
<th>$t$</th>
<th>$df$</th>
<th>$p$</th>
<th>Mean Difference</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics</td>
<td>1.929</td>
<td>89</td>
<td>.057</td>
<td>2.47</td>
<td>1.28</td>
</tr>
<tr>
<td>Employment</td>
<td>1.430</td>
<td>87</td>
<td>.156</td>
<td>1.14</td>
<td>0.79</td>
</tr>
<tr>
<td>Opportunity</td>
<td>3.134</td>
<td>89</td>
<td>.002*</td>
<td>1.24</td>
<td>0.39</td>
</tr>
<tr>
<td>Other</td>
<td>1.170</td>
<td>88</td>
<td>.245</td>
<td>.490</td>
<td>0.42</td>
</tr>
</tbody>
</table>

* $< .05$

Demographic Research-Related Data Questions

The data section of the survey had questions pertaining to the background of the pilots taking the survey. Questions 23 through 47 asked for descriptive information that pertained to school/academics and present employment. Most of the pilots completed this data section, and their answers could be cross-referenced with other questions in the data section.
Questions 23 and 24 qualified the pilots’ sex and age. Of the 91 respondents, 87 were male (96%), with an average age of 37.80 ($SD = 9.54$ years).

Question 26 dated the pilots’ entry into aviation by asking for the date of first solo. The date was converted into years and months from the earliest time listed and subtracted from the most recent date of September 2007. This gave the average number of years that the pilots had been flying at 16.92 years ($SD = 9.57$). This is also a level of experience data indication.

Question 27 asked for the total flight hours that the pilots had accrued. The combined captains and first officers had an average total flight time of 7,693 hours ($SD = 5515.94$). This flight time could be further broken down between first officers and captains in order to reflect the total experience of the different pilot flight positions. This question could also be analyzed with other questions, such as question 33, in order to collect additional data on the time pilots have accrued since being employed at their present airline. This would better qualify the experience level that pilots have in the workplace today.

Questions 28 and 29 asked for CFI Certificate and total CFI time (Certified Flight Instructor). These questions qualify the background of the individual taking the survey in relation to how they built their flight time during and after their academic flight training. They also indicate the process of how crew coordination is learned between 2 pilots in one airplane. Out of the 91 respondents, 78 (85.7%) had their CFI rating, and total CFI flight hours were 1,663.

Questions 32, 33, and 34 helped qualify the employment requirements of the employers for the pilots taking the survey. These numbers can be analyzed as a
benchmark that employers establish for pilots to qualify for employment consideration with specific flight times.

Question 33 compares and contrasts the years that pilots have been employed at the specific regional airline and in the capacity of captain or first officer. This number is valuable to determine the new hire rate, upgrade time from first officer to captain, and attrition rate at the specific regional airline. Of the 91 respondents, 49 (53.8 %) were captains and 42 (46.1%) were first officers. Captains indicated that they had been employed at the specific regional airline for an average of 17.3 years, and first officers had been employed for an average of 4.5 years \((SD = 6.87)\).

Question 36 measured the highest level of education that the pilots had completed. The entry for bachelor’s degree had the highest completion rate of all the levels measured. Out of 91 respondents, 64 (70.3%) attained the bachelor’s degree. No other degree selections came close to this figure.

Questions 38 through 47 were queries into specific collegiate data fields. Significant high percentage numbers from these questions help determine the quality of the collegiate program that prepared respondents for their regional airline careers.

Question 38 gives information on the connection of bridge programs between regional airlines and aviation universities. This is invaluable information pertaining to the importance of regional airlines being involved in the training process with higher education aviation programs. Out of 91 respondents, 12 (13.1%) graduated from a bridge program for a regional airline. Question 40 is extremely valuable because it measures the number of pilots who obtained an aviation degree from higher education aviation programs. Out of 91 respondents, 53 (58.2%) obtained an aviation degree.
The last question, 47, is an indicator of how flight schools directly control the access and use of training aircraft. Out of 91 respondents, 75 individuals (82.4%) indicated that the school owned their own aircraft.

Survey Respondents’ Comments with Qualitative Data Themes

All of the recorded written comments that respondents left on their surveys were compared for similarities to the 4 themes that were correlated from the quantitative data of the first 23 questions of the survey. The themes that emerged were school and academics, satisfaction with academic programs, employment, and workplace opportunities with challenges. Of these themes, academics were the predominant concern in the comments. The comments made were mostly supportive of the academic process and reflected an appreciation of obtaining a degree in higher education. Many respondents stated that their degree was in a non-aviation field and that they completed their flight training outside of a collegiate environment. However, most of the negative comments were made on the state of the regional airline industry, and most of these were made by captains. Also, all the negative issues dealt with the changing trends in the demographics of new hires in the regional airlines and the lowering of standards to meet staffing requirements for pilots.

Analysis of Research Questions

The primary purpose of this study was to expose any inadequacies in higher education aviation curriculum, and to explore the secondary goal of comparing and contrasting the role of 2-year colleges with aviation programs to the role of 4-year
universities with aviation programs. Three research questions were examined to achieve this goal.

Research Question 1: Is higher education advisable for students embarking on an aviation career as a pilot for a regional airline?

Responses from the first 22 quantitative research questions had academics with the most correlations. Higher education was advisable based from the responses placed in the agree/strongly agree margins of Questions 7, 8, 9, 11, 17, 20. In this section, first officers scored higher responses than captains. Captains responded more frequently in the disagree areas of these questions.

Responses from the data research questions had a high percentage of results in academic areas: 70.3% had a bachelor's degree, with 58.2% completing an aviation degree. The high percentage response for completing a bachelor's degree confirmed the need and perceived requirement for higher education in a regional airline career.

Responses from the respondent’s comments questions had mixed results, but the majority left favorable remarks on the importance of obtaining a degree to improve pilot chances of being hired in the regional airline industry. First officers left the most favorable responses to the value of their higher education degrees and were the most adamant about obtaining their present employment due to higher education.

Research Question 2: Have 2-year colleges and 4-year universities with aviation programs kept up with the requirements for employability with the regional airlines?

Responses from the first 22 quantitative research questions had employment opportunities as a high return. Responses in this area indicated a majority satisfaction with employment opportunities that were created by higher education aviation
programs. Questions 5, 6, 10, 17, 18, 19 and 22 were concerned with employment opportunities that were related to aviation higher education curricula. Of these questions, first officers scored more favorably than captains in their responses.

Responses from the data research questions were limited in being related to this research question, but several questions indicated some response to higher education aviation programs being current for the needs of regional airlines. Question 38 had a 13.1% return for aviation students graduating from a college that had a bridge program for a regional airline. Question 39 had a 13.1% return for aviation students completing a college airline internship. Both questions 38 and 39 were scored the highest by captains.

Responses from the respondent’s comments questions dealt mostly with staffing shortages and workplace conditions. However, the few comments that were made on employability that was due to higher education aviation programs were favorable.

Research Question 3: Can higher education aviation programs properly measure and critique their programs in regard to the qualifications that students need to embark on a career as a regional airline pilot?

Responses from the first 22 quantitative research questions had several responses that were interpreted to critique and measure higher education programs. These responses were indicated in Questions 5, 7, 11, 12, 14, 16, 17, 19, and 20. These questions dealt with training accountability and how the respondent felt they had an advantage in being hired by the regional airlines. The first officers scored higher than captains in all of these questions. Most of the responses were made in the
strongly agree section, and this verified the research question of aviation colleges being able to critique their programs.

Responses from the data research questions were limited in making connections to aviation college accountability due to the nature of the questions, and no real connections could be made.

Responses from the respondent’s comments questions had numerous direct connections to the merit, worth and accountability of higher education aviation programs in reference to preparing aviation students for the regional airlines. The comments dealt with schools that were accountable in the preparation for students being adequately trained for the airlines, and comments were mixed in the esteem held for former colleges. Comments made ranged from avoiding over-priced schools, advantages of formal ground courses, the lack of college job placement, and the lack of a formal CFI (Certified Flight Instructor) school. The overall response was that higher education aviation programs can properly measure and critique their programs if they desire to and if they desire to meet the needs of their students.

Summary

The instrument used to poll the pilots of both regional airlines was designed to collect descriptive statistics that could be analyzed to evaluate past training methods. Analysis of the returned data on the survey forms and a reading of the written comments supplied by the recipients revealed distinct correlations between the different groups of pilots of both airlines. Chapter 5 presents a summary of the study’s findings, conclusions, and recommendations.
CHAPTER 5
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This study of the regional air carrier pilots was performed to analyze the effectiveness of pilot training that was produced by 2-year colleges and 4-year universities with aviation programs, as well as to determine how higher education aviation institutions were meeting the pilot needs of regional airlines. It also was performed to understand the questions of the need for higher education for individuals pursuing aviation careers as pilots, the quality of aviation-related education the colleges and universities were producing, and the ability of higher education programs to properly evaluate the effectiveness of their programs.

Purpose of the Study

The purpose of this study was to expose any inadequacies in the higher education aviation curriculum and to propose changes to better qualify aviation pilot students in the hiring process at regional air carriers. A secondary goal was to compare and contrast the role of 2-year colleges with aviation programs to the role of 4-year universities with aviation programs in the process of how students are educated for aviation flight careers.

Research Questions

The research questions designed to achieve the purpose of this study included the following:
1. Is higher education advisable for students embarking on an aviation career as a pilot for a regional airline?

2. Have 2-year colleges and 4-year universities with aviation programs kept up with the requirements for employability with the regional airlines?

3. Can higher education aviation programs properly measure and critique their programs in regard to the qualifications that students need to embark on a career as a regional airline pilot?

Summary

The present pilot needs of regional airlines have strained the training industry to find enough pilots to meet staffing requirements for the airlines. Out of this need, allowances have been made by the airlines to accelerate the process in which pilots can be hired and trained to meet the standards required by the FAA and regional airline training departments. In this environment, 2-year colleges and 4-year universities with aviation programs have had to compete with outside markets to qualify, train, and graduate a better student product that is ready to transform into the regional airlines. This graduate aviation student also has to blend with older pilots who were trained differently in the past and must bridge the gaps that exist between the new and the old procedures of getting started in the regional airline industry. One respondent said “...(first officers) are un-interested in learning any culture. Since (...) has no history, no pilot culture, no tradition - they will be right at home. They need to get out of the idea of ‘paying dues.’"
The majority of the pilots completing the survey had a 4-year degree (70.3%). This was common from new hires to much older experienced captains. By tabulating the results, the 4-year degree is still the standard that pilots desire to obtain, although the major of aviation is inconclusive; 58.2% possessed a 4-year aviation degree. Those who responded to the subject of degree specialty were split on whether the type of degree was important.

Several captains were impressed with the quality and caliber of training that new hires possessed, but they were concerned about the lack of total flight time and lack of outside experience of the younger first officers hired. One of the captains responded “As a line check airman, I have trained low time bridge program pilots. Most are pretty sharp, but it is impossible to teach judgment which only comes from experience. It is unfortunate that the days of flying corporate or flying freight before getting hired at a regional are over.” Another captain replied with a similar concern of “…The 300 - 400 hr. FO's being hired have no idea of airline flying and no more idea of jet aircraft, high altitude aerodynamics / physiology...” First officers surveyed were far more optimistic about their future and displayed a higher level of confidence in the attainment of their flight positions. The first officers also had a greater appreciation of their higher education backgrounds and expressed an opinion that this background was a deciding factor on their being hired at their airline. The first officers also gave favorable remarks concerning the level of training they received at their collegiate flight schools, whereas many captains came from nontraditional flight schools that were not associated with higher education.
Pilots completing the surveys gave their aviation colleges and aviation universities favorable remarks for curriculum, technical expertise, and modernization for aeronautical training. This pattern was even higher with first officers. This favorable information from first officers indicates the accuracy of recent training from 2-year colleges and 4-year universities with aviation programs, as many new-hire first officers are recent graduates from these collegiate programs. One captain commented “Regional Airlines do not require a degree but we are all aware an education is required by the major airlines.”

The survey showed no alarming levels of inadequacies that existed in the higher education aviation curricula, nor did it find that major changes were needed to better qualify aviation students in the hiring process at regional air carriers. Most comments made on issues of past training came from concerns about the expenses incurred and the burden of repaying large student loans. The most frequent complaint about training was lodged by captains, who cited the lack of experience that new hires are bringing into the cockpit. This was no reflection on the collegiate training process in colleges and universities, but it is a reflection on the present state of the industry because the regional airlines are requiring lower hours as a consideration for initial employment. Pilots have traditionally gained experience after graduation when they have the aviation certificates and ratings obtained at their respective aviation colleges and universities. These same colleges and universities often employ their graduates as Certified Flight Instructors to gain experience by training other students.

There was little difference found in pilots’ preferences of 2-year colleges with aviation programs when compared to 4-year universities with aviation programs in the
process of how students were educated for aviation flight careers. The surveys showed that the majority of the pilots with aviation degrees graduated with a 4-year degree, but the 2-year degree graduates spoke very favorably of their aviation schools. As one respondent said “I did attend a 2 year college with an aviation school - Mountain View Community College - Dallas County. I completed all the ground school for the certificates and ratings, but did not receive an associate degree. I do believe the formal ground schools were advantageous.” However, several 2-year degree pilots indicated that they went on to 4-year universities to pursue different majors. Another pilot went in the reverse order by obtaining a four year degree non-aviation degree first and then went back to a two-year technical college to obtain his flight training and associate’s degree. In his words “…I graduated from Tarleton in 83 & graduated from TSTC in 85.”

Many findings in the analysis of the survey found issues parallel to those in Chapter 2. Some of these came from comments of the respondents, and others were noticed in the analysis the results. Chapter 2 mentioned that collegiate aviation has been a major source of training in the United States (U.S. Department of Education, 1998). This was confirmed by the large number of individuals in the survey who completed an aviation degree, as 58.2% indicated they attended a higher education institution to receive their flight ratings and certificates.

Chapter 2 noted that the downsizing of the military has led to a dependence on the civilian field (U.S. Department of Education, 1998). This was confirmed in the survey by the very low number of former military pilots, at 7.6%. Of these pilots, 2 were flow-back pilots from America West and TWA, which were legacy carriers.
Also mentioned in chapter 2 were the recommended partnerships formed between the airlines and universities to jointly address the training and technology needs of the air carrier industry (Karp, 1996). The survey confirmed this trend in the percentage of bridge agreements used by the survey participants, which was 13.1%.

A concern voiced in the literature of chapter 2 was the lowering of standards for entry-level pilots by the regional airlines in times of pilot shortages (Matthews, 2006). The literature stated that regional airlines are desperately trying to recruit enough pilots to meet their staffing requirements (Fanjoy et al., 2006). This was confirmed numerous times in the comments on survey responses and was one of the most frequent negative comments voiced. This fact was also supported in the data section of the survey on Question 32, “Number of hours when hired by present airline flight times” and in conjunction with Question 33, “Years employed at present airline.”

Conclusions

Two-year colleges and 4-year universities with aviation programs are meeting the demands made by the regional airlines, but the present pilot shortage situation is presenting challenges to the system to produce more pilot graduates in less time. Disparity exists between older crew members and younger, less experienced new-hires because of the demands of the staffing shortage of the regional airlines. With this shortage, the pressing issues of how to train and hire qualified pilots to fly technologically advanced regional airline jet aircraft have forced the industry to demand more aviation skills from a shrinking market of aviation pilot candidates.
Aviation students recognize the worth and value of a 4-year degree and that obtaining this degree creates a distinct marketing advantage in being hired by both the regional airlines and later legacy major airlines. Also, there is an advantage in obtaining a 4-year aviation degree because of shorter training time and future marketing potential. However, these advantages are offset by instability in the airline industry when students are faced with the prospect of finding a non-aviation career if unemployment occurs with their prospective airline due to circumstances beyond their control.

Recommendations

As hiring criteria for regional airlines change, 2-year colleges and 4-year universities with aviation programs will need to compete with outside private aviation training schools in the training of collegiate students for airline employment opportunities. Higher education will be an advantage to students seeking employment with an air carrier, but the training process must continue to be tailored to meet the needs that air carriers utilize in the workplace.

A second recommendation is that 2-year colleges and 4-year universities with aviation programs must increase their offerings for CFI programs, and they must push for a higher completion rate. As one respondent said “...I completed my CFI training away from my University because there was no formal curriculum for it. It was easier to simply go to a flight school in the area...” Another respondent wrote ”...I went to ATP’s for the CFI/II/MEI because it was faster & cheaper than MTSU's...” The process of creating a quality degree program to obtain the CFI rating that is more accessible to
aviation students must be implemented in a larger number of higher education aviation programs.

Personal Recommendations

Ground school curricula and flight courses must be coordinated to meet the present day needs of the regional airlines, and workplace agreements must be in place between the airlines and the curricula of the aviation schools to meet the workplace needs and demands of the airline industry. This reflects the needs of both pilot training in aircraft and the classroom training of aviation curricula. As industry hiring standards are lowered for pilots in order to meet airline scheduling shortages, aviation schools must keep the combined package of aviation training and college core components to provide the superior package of an aviation college degree. This will be a challenge as college tuition costs increase and competition from non-collegiate schools cuts into their market. One respondent recommended in his comments “My 2-cents of advice to a prospective aviation student is to pick a good, reputable school, but to avoid a school whose tuition cost is astronomical...”

The choice students make in pursuing an aviation career at an early age is a challenge. They must take the correct steps to successfully accomplish the dream of flying, but it is also vital that they make the ideal academic choices for preparation in this career. The major commitment students make to pursue an airline career must be approached as steps toward a career in air carrier operations, not a weekend hobby that must be supported by another job.
Academic degree plans with minors outside of aviation give prospective students an insight into additional fields. Further higher education in graduate fields is also an option, with master’s degrees being obtainable through distance learning programs that are more accessible to pilots. This type of diversification makes aviation students more competitive in not only the aviation industry but in other fields as well.

Future studies could explore how regional airlines could tailor specialized pilot training agreements with 2-year colleges and 4-year universities with aviation programs, both academically and financially. Added incentives for the student could be financial aid, flight time building grants, and a higher initial salary upon being hired by the airline after the student graduates. This could add needed resources to the schools to better qualify potential students from the onset of training and eliminate lost time and financial resources.

Another possible study would be to explore the value of distance learning in aviation subjects, because this field has become a popular choice in delivering lower and upper-level aviation curricula. With more students looking for additional resources to advance their careers in aviation, new ways of bringing the correct form of aeronautical education to far-flung students must be explored. Possible gains from this study would be improved access to lower and upper-level courses via 2-year colleges and 4-year universities with aviation programs and an advanced marketing program that would expose more potential aviation students to the possibilities of an aviation career.
APPENDIX A

SURVEY INSTRUMENT
## REGIONAL AIRLINE PILOT SURVEY

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I learned about my flight school through acquaintances that recommended me this particular school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. My initial expectations were met at my flight school from the time I started flight training to the completion of my aviation courses.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I received a good value for the money I invested at my flight school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I was motivated and challenged by my flight instructors during my flight school training.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. The level of avionics at my basic flight school was adequate for the basic instrument skills I use in my present flight position.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Membership in the Alpha Eta Rho aviation fraternity was a factor that increased my aviation marketability.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. My aviation ground school academic subjects were coordinated to be taken at the same time I took specific flight courses.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I was motivated and challenged by my academic professors during my aviation classroom training.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. My basic non-aviation academic core components were blended well with my aviation curriculum to produce a well-rounded degree.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. My school was concerned for my future marketability in air carrier employment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I am satisfied with the amount of time it took to complete my aviation degree.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. My academic advisor adequately prepared me for the air carrier industry where I was later employed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. I completed most of my aviation training outside of the college where I received my degree.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. I received my flight training outside of a university collegiate environment, and I found it superior to that of an aviation university.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. If I could return to my freshman year, I would choose the same major I completed with my degree.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Distance learning was an important factor in completing my college degree.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Based on my collegiate training, I was well prepared for my interview with my present employer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. My academic background had no factor on my being selected by my present airline.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. My college training and degree put me at an advantage over applicants with no college training when I was hired by my current employer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
20. I was hired at this airline due to my trainability in aviation skills. 

21. I was hired at this airline due to my past operational background in aviation.

22. Based on my past training at my aviation school, I am satisfied with my current aviation status.

23. Sex:  M  F

24. Age:  ______

25. Race:  __________________________

26. Date of first solo:  ______

27. Total flight hours:  ______

28. CFI Certificate:  YES  NO

29. Hours as CFI:  ______

30. Part 135 Hours:  ______

31. Part 91 Corporate Hours:  ______

32. Number of hours when hired by present airline:

   Single Engine:  ______  Multi Engine:  ______

   Turbine Engine:  ______

33. Years employed at present airline:  ______

34. Present Flight Position:  __________________

35. Former military pilot:  YES  NO

36. Education, please check the highest level completed:

   High School  Some College  Associate’s Degree

   Bachelor’s Degree  Graduate School Experience  Graduate School Degree

37. Name of college/university:  ______________________

38. Graduate of college with bridge program for regional airline:  YES  NO

39. Completed college airline internship:  YES  NO

40. Aviation Degree:  YES  NO

41. Non Aviation Degree:  YES  NO

42. 2 year college with aviation school:  YES  NO

43. 4 year university with aviation school:  YES  NO

44. Aviation school, no college affiliation:  YES  NO

45. Part 141 curriculum:  YES  NO

46. Part 61 curriculum:  YES  NO

47. Were aircraft owned by aviation school?  YES  NO
APPENDIX B

COVER LETTER
Dear ________________ Pilot,

My name is James Fullingim, and I am requesting your help in completing the enclosed Regional Airline Pilot Survey that is part of my dissertation project for the University of North Texas in Denton. My dissertation is a study on how effective higher education colleges and universities have been in preparing aviation students for aviation careers that lead to regional airlines, particularly _________________. I am a former regional airline pilot, and am currently an Assistant Professor of Aviation Science at Tarleton State University - Central Texas in Killeen. I teach upper level aviation courses to pilots pursuing their Bachelor of science degree, and I constantly strive to improve the quality of courses so that the students’ transition into a career in the air carrier industry will be relatively seamless.

It is estimated that it will take 5 minutes to take the 2-page survey. The first 22 questions are constructed in a Likert scale where one answer is selected that best expresses your opinion of your aviation training history. The last 25 questions are selection completion inquiries that will help me understand your specific aviation background. If you wish to add any comments or thoughts that apply to your aviation training background, please feel free to write them on the back of the survey.

A $1.00 gratuity is also enclosed as a token of my appreciation for your time in helping me with this survey.

Please seal and mail the completed survey in the attached self-addressed, stamped envelope and drop it in the nearest post office mail box. I would greatly appreciate your completion of this survey within one week. This survey is anonymous. If you wish to receive the results of this survey, please feel free to contact me at my home or email address. Thank you!

Sincerely,

James Fullingim
APPENDIX C

INFORMED CONSENT NOTICE
Informed Consent Notice

The purpose of this research study is a study on how effective higher education colleges and universities have been in preparing aviation students for aviation careers that lead to regional airlines. You are being asked to complete a survey that will take about five minutes. Answering the questions in the survey involves no foreseeable risks. Participation is voluntary and you may stop at any time without penalty. By completing the survey you are giving consent to participate. Results of this survey will be reported only on a group basis.

This research project has been reviewed and approved by the University of North Texas Institutional Review Board (IRB). Contact the UNT IRB at 940-565-3940 with any questions regarding your rights as a research subject.

You may keep this notice for your records.
APPENDIX D

SURVEY RESPONDENTS COMMENTS
SURVEY RESPONDENTS’ COMMENTS

REPLIES:
14 captains, 8 first officers

REATIONS:
8 positive, 7 neutral, 6 negative

Positive

1. Dear Mr. Fullingim, How’s it going! Not much here. Been a capt for about 8 months. I tried to see ya on one of my overnights at TSU. Unfortunately, no one was in your office. I'll try and come up and visit on one of my days off. Just between you and me, you were the teacher who made the diff in my life. Thanks again for everything. Hope all is well. (CAPTAIN)

2. Regional Airlines do not require a degree but we are all aware an education is required by the major airlines. (CAPTAIN)

3. Dear James, Thanks for the opportunity to fill out your questionnaire. I graduated from Tarleton in 83 & graduated from TSTC in 85. Flight instructed & flew corporate until 87. Was president of Alpha Eta Rho & Flight team captain & judge at later NIPA events. I have seen & lived thru a lot of changes in the industry. If you need any insights Please feel free to call. Eagle is currently looking for pilots. Dropped requirements down to 400 hrs with school affiliations, hiring 60/month. (CAPTAIN)

4. My 2-cents of advice to a prospective aviation student is to pick a good, reputable school, but to avoid a school whose tuition cost is astronomical (ERAU e.g.). Carrying a higher than necessary debt load after graduation is a very difficult situation in today's air carrier industry as wages are down, advancement can be slow even in light of strong pilot demand, and although improved in recent years, there is still a general instability in the industry especially at the regionals. (FIRST OFFICER)

5. Mr. Fullingim, It's nice to hear from you, and I was shocked when I got your survey in my V-file at work. I hope everything is going good for you and your wife. I was going to leave some comments on the back of the survey, but thought you would like a letter instead. I've been with ExpressJet Airlines, Inc. for three years now and waiting for Houston to open up so I can upgrade to Capt. I can hold it in all the other bases but don't want to commute. I'm bidding in the top 30, so life is pretty good for me. It's funny to see how seniority works after talking about it in class.

The one thing I would pass down to the newer guys/gals in class, is the truth about the airline industry, for it has changed a great deal probably since you been in it. The kind of things that nobody ever told us about, such as the lifestyle when you are junior, or the first years pay that's only about $19,000.00. Not having medical benefits for six months, or making it to the major airlines and taking about a 50% pay cut.
It's almost sad to say you can make more money as a McDonald's manager or work at TSA agent and make a better life for yourself. I guess we all know why we keep doing it though. If you ask every pilot, the answer is always the same. It's because I love to fly, and that's the only place I feel free....

As for your gratuity, I would like to thank you for everything you have done for your past students, being there when we need answers, being a mentor to all of us and most of all with this survey, what you will teach your future students. (FIRST OFFICER)

6. Q. 10: I would agree that the aviation schools I have attended were concerned about future marketability. I actually received my degree from a non-aviation school in business management. Q.13: Flight Training Q. 14 & 42: I did attend a 2 year college with an aviation school - Mountain View Community College - Dallas County. I completed all the ground school for the certificates and ratings, but did not receive an associate degree. I do believe the formal ground schools were advantageous. (FIRST OFFICER)

7. USMC helicopter Pilot, 23 years:10½ active duty/12½ reserve duty, NROTC program James, Very Professional survey! Best of luck. (CAPTAIN)

8. EMBRY-RIDDLE: Extended Campus (Fort Lauderdale) + Distance Learning : Embraer 145 PILOT, COMMUTER, DFW BASED. GOOD LUCK IN YOUR PROJECT! (FIRST OFFICER)

Neutral

9. Mr. Fullingim, Not quite the target you were looking for; but in summary, I went to U of M and received a B.O.S., Bachelor of Professional Studies in Aviation Administration. I received course credit for outside learning, such as my private, instrument, and so on. My flight training was under Part 61 on my own at the local FBO. QUESTION 43 REMARKS: 4 year university with non-traditional college for career experience (CAPTAIN)

10. I went to OU for Radio-TV-Journalism degree. I got my certificate outside of any aviation school. I worked in Radio-TV field while getting my flying experience. I worked as a CFI for 2 years then got hired by Simmons Airlines in March 1988. AMR bought us in July 88. I had no plans to be an airline pilot. (CAPTAIN)

11. Q.47: Then - C-172, M 20C, C-310R James, Sorry for the delay returning this survey. I was on an extended vacation. I don't know when it was left in my mail box. But I'm sure I missed the deadline. I hope you got good results from the rest of the Eagle crews. I'm not sure my answers would be useful as I had a non-standard education. I took 10 years to get my Bachelors Degree. Plus my degree is in Avi. Management. Then worked in Maint. while building flight time. The late 70s was a down time in the industry and the jobs just weren't there. Good Luck. (CAPTAIN)
12. Q. 3: (Pre 9/11) Question no. 15 was tough to answer. MTSU was a good, safe & affordable program & it was close to home. However, when I completed my degree (B.S. Aerospace) I was completely on my own to find a job outside of teaching student pilots. We had no "bridge" programs like Riddle or U.N.D., just a network of ex-MTSU C.F.I.s who went to this airline or that one. I did my private X-C flying, did the I.F.R., Complex, Multi there & went to ATP's for the CFI/II/MEI because it was faster & cheaper than MTSU's. I was hires at XJT 5 months after I graduated. (FIRST OFFICER)

13. James, I went thru college & flight training when things were little different than now. If I were to go through flt school & airline career, I am sure it will be lot more different route. Feel free ask any further questions if you may have. (CAPTAIN)

14. I completed my CFI training away from my University because there was no formal curriculum for it. It was easier to simply go to a flight school in the area. The hiring mins at ExpressJet are steady at 600 - 1. When I was hired 600 was only the minimum. You needed at least 1000 to be competitive. The mins have lowered because of the staffing shortages. (FIRST OFFICER)

15. Sorry, I probably won't help your survey. I'm just an old school (former crop duster) who was hired by Metro Airlines in 1978 because I was a Viet Nam Vet. Substitute FLT.School Instructors for Academic Professors Q. 18: VET Q. 20: VET (CAPTAIN)

Negative

16. I appreciate your research as I think it could have an effect on future pilots at all levels. I foresee in the future a problem with the present system of training for an airline job. With less and less time required for airlines and airline specific training environments, I believe basic learned skills are being lost. If you train inside a specific box, when situations arise outside that little window of exposure, bad decisions will happen. I was fortunate enough to fly a little instruction, single pilot photography, and corporate as well as having and using an A & P. I see "pipeline" kids, those who 9 months ago decided to be a pilot, went to a regional pilot factory program, and are now flying an RJ, all the time who have a lack of basic abilities. They can spit out the rules and regs, but can't fly a visual or accept a change of instructions easily. They've never landed on unimproved strips, flown w/o radios, made close in course reversals, etc. Not had the experience of basic things that will contribute to the ability to work outside the box to achieve the goal. This is no fault of their own, but a fact of supply and demand. Keep your dollar, or put it into another study. The least I can do for my profession is fill out a survey or 2. (CAPTAIN)

Thanks for the “buck” but I am sure your survey is not targeted to me. I graduated with a B.S. in Bus. Mgt. and received my initial flight training w/ the USAF. I earned my ME/MEI/CFI/CFII thru VA benefits and paid for my glider/ASAS/AMES/CFIG myself. Later, I earned my MBA in Aviation from Embry-Riddle. My employment at Eagle is due to a "flowback" agreement that places furloughed AA (TWA) pilots at eagle.

You might just toss my survey.

I have no idea what your thesis proposes, but given the sorry state of the airline business, and especially the deterioration of pilot pay and quality of life - I suggest students find a real job. Once they have a profession (Dr., Lawyer, Accountant etc - then dabble w aviation. Take a regional airline job only as a second job.

As regards to your question #6 - forget it! Bottom line - get time - lot's of it. The 300 - 400 hr. FO's being hired have no idea of airline flying and no more idea of jet aircraft, high altitude aerodynamics / physiology. They also are un-interested in learning any culture. Since Eagle has no history, no pilot culture, no tradition - they will be right at home. They need to get out of the idea of "paying dues." Regionals have become a career - not just a path to the majors. (CAPTAIN)

18. James, I am a Military-Trained pilot who flew T-37, T-38, T-38A, F-4G, F-15A, and was an instructor in each aircraft. Following the military, I worked for America West Airlines flying the B-737-33 for a little over a year. Then began flying for American Airlines in 2000. I am typed in the B-767, B-757, EMB 145. Currently at American Eagle because of furlough from American and an agreement is in place that allows me to fly at Eagle. Personal note; the personal and professional treatment new pilots receive at Regional Airlines is not good. They are highly trained and motivated. They are treated poorly and their pay is ridiculous. This is an area I wish someone would look into. How does it make sense to go to college, work hard, and earn poverty wages. I predict a large pilot shortage in the next few years. Eagle cannot allow approved upgrades to captain because of manning issues. Every regional pilot I talk to are experiencing the same manning issue. It doesn't help when management gets millions each year in bonus pay, while reducing everyone's pay. (CAPTAIN)

19. Q. 14: Since I have no direct flight comparison this is hard to answer. However, given the other option of the time I feel my instruction was superior to other school. Q.15: I've realized that airlines do care about a college degree, but don't seem to have an opinion on the type. Given the extreme volatility of the airline environment and possibility of furlough during down cycles, I now wish I had a degree in something other than aviation to serve as a back-up career option. Q.22: Eagle has one of the longest upgrades in the entire regional industry. Many factors (far too long to elaborate) contribute to this. I feel Regional First Officer pay is unrealistic and too low given the skill required to be employed in a 121 environment. I strongly believe this is why regional minimums have dropped so low. I don't believe there is a pilot shortage, but I
do believe there is a shortage of pilots willing to do this job for the pay/benefit. (FIRST OFFICER)

20. AS A LINE CHECK AIRMAN, I HAVE TRAINED LOW TIME BRIDGE PROGRAM PILOTS. MOST ARE PRETTY SHARP, BUT IT IS IMPOSSIBLE TO TEACH JUDGEMENT WHICH ONLY COMES FROM EXPERIENCE. IT IS UNFORTUNATE THAT THE DAYS OF FLYING CORPORATE OR FREIGHT BEFORE GETTING HIRED AT A REGIONAL ARE OVER. (CAPTAIN)

21. I attended Pan Am International flight academy. I feel that the airline industry is facing a Pilot Shortage and the need for a college education will be of very little importance. (FIRST OFFICER)

22. Q. 5: went to flight school in the late 80's. Avionics has changed a lot since then. Q. 6: did not join that fraternity - they were all sissies Q. 9: I was 3 years into a history degree when I changed schools. Q.12. I did not have an "academic advisor." Q. 20 & 21: You need to ask the airline this question not the pilot. (CAPTAIN)
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